AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A non-human transgenic organism comprising a transgenic element that engenders therein production of a prothrombin or prothrombin-related polypeptide.

2 – 4. (Canceled)

5. (Withdrawn) A transgenic organism according to claim 1, wherein the prothrombin or prothrombin-related polypeptide therein produced accumulates in a specific tissue compartment, fluid or product of the transgenic organism.

6. (Withdrawn) A transgenic organism according to claim 5, wherein the transgenic organism is a non-human mammal.

7. (Withdrawn) A transgenic organism according to claim 6, wherein the mammal is mouse, rat, hamster, rabbit, pig, sheep, goat, cow or horse.

8. (Withdrawn) A transgenic organism according to claim 6, wherein the organism is female and the polypeptide accumulates in milk.

9-10. (Canceled)

11. (Withdrawn) A transgenic organism according to claim 1, wherein the prothrombin or prothrombin-related polypeptide produced in the organism when isolated and purified has a specific activity is 75% to 125% of that of purified human prothrombin.

12. (Withdrawn) A transgenic organism according to claim 11, wherein activity is determined by a chromatographic assay of amidolytic activity or by APTT assay.

13. (Withdrawn) A transgenic organism according to claim 1, wherein the prothrombin or prothrombin related polypeptide comprises a region having an amino acid sequence 80% to 100% identical to that of a mammalian thrombin.

14-15. (Canceled)

16. (Withdrawn) A transgenic organism according to claim 13, wherein the prothrombin or prothrombin-related polypeptide comprises a region having the amino acid sequence of human thrombin.

17. (Withdrawn) A transgenic organism according to claim 1, wherein the prothrombin or prothrombin-related polypeptide comprises a region having an amino acid sequence 80% to 100% identical to that of a mammalian prothrombin.

18-19. (Canceled)

20. (Withdrawn) A transgenic organism according to claim 17, wherein the prothrombin or prothrombin-related polypeptide comprises a region having the amino acid sequence of human prothrombin.

21. (Canceled)

22. (Withdrawn) A transgenic organism according to claim 11, wherein the transgenic element comprises a promoter operatively linked to a region encoding prothrombin or a prothrombin-related polypeptide, wherein further the promoter is selected from the group consisting of the promoters of whey acidic protein genes, casein genes, lactalbumin genes and beta lactoglobulin genes.

23. (Canceled)

24. (Withdrawn) A transgenic organism according to claim 17, wherein the transgenic element comprises a promoter operatively linked to a region encoding prothrombin or a prothrombin-related polypeptide, wherein further the promoter is selected from the group consisting of the promoters of whey acidic protein genes, casein genes, lactalbumin genes and beta lactoglobulin genes.

25. (Withdrawn) A transgenic organism according to claim 11, wherein the promoter is the mouse long whey acidic protein promoter.

26. (Canceled)

27. (Withdrawn) A transgenic organism according to claim 17, wherein the promoter is the mouse long whey acidic protein promoter.

28. (Currently Amended) A ~~prothrombin or prothrombin related~~ recombinant transgenic polypeptide ~~isolated from a transgenic organism~~, wherein said polypeptide comprises a Gla domain and a region that is at least 70% identical to human prothrombin.

29. (Currently Amended) ~~A prothrombin or prothrombin related~~ The polypeptide ~~isolated from a transgenic organism according to~~ of claim 28 ~~that~~, wherein said polypeptide differs in [[its]] post-translational modification from a naturally occurring human prothrombin ~~polypeptides~~.

30. (Currently Amended) ~~A prothrombin or prothrombin related~~ The polypeptide ~~according to~~ of claim 29, ~~that differs from naturally occurring prothrombins in any one or combination of its~~ wherein said post-translational modification is selected from the group consisting of glycosylation, γ-carboxylation [[or]] and ~~activation by~~ proteolytic processing.

31. (Currently Amended) ~~A prothrombin or prothrombin related~~ The polypeptide ~~according to~~ of claim 28, wherein said polypeptide has ~~having~~ a specific activity between [[is]] ~~75% to 125%~~ 50% to 150% of ~~that of~~ a purified human prothrombin.

32. (Canceled)

33. (Currently Amended) ~~A prothrombin or prothrombin related~~ The polypeptide ~~according to~~ of claim 28 [[31]], wherein ~~the prothrombin or prothrombin related~~ said polypeptide further comprises a region having [[the]] an amino acid sequence 80% to 100% identical to that of a mammalian thrombin.

34. (Canceled)

35. (Currently Amended) ~~A prothrombin or prothrombin related~~ The polypeptide ~~according to~~ of claim 33, wherein ~~the prothrombin or prothrombin related~~ said mammalian thrombin ~~polypeptide comprises a region having the amino acid sequence of~~ comprises human thrombin.

36. (Currently Amended) ~~A prothrombin or prothrombin related~~ The polypeptide ~~according to~~ of claim 35 [[31]], wherein ~~the prothrombin or prothrombin related~~ said polypeptide comprises a region having an amino acid sequence 80% to 100% identical to ~~that of a mammalian~~ said human thrombin.

37-39. (Canceled)

40. (Currently Amended) A composition, comprising a ~~prothrombin or a prothrombin-related~~ recombinant transgenic polypeptide ~~produced in a transgenic non-human mammal~~, wherein said polypeptide comprises a gla domain and a region that is at least 70% identical to a prothrombin.

41. (Currently Amended) [[A]] The composition ~~according to~~ of claim 40, wherein [[the]] said ~~prothrombin or prothrombin-related~~ polypeptide differs in its post-translational modification from a naturally occurring prothrombin ~~polypeptides~~.

42. (Currently Amended) [[A]] The composition ~~according to~~ of claim 41, wherein ~~the prothrombin or prothrombin-related polypeptide differs from naturally occurring prothrombins in any one or combination of its~~ said post-translational modification is selected from the group consisting of glycosylation, γ-carboxylation [[or]], and ~~activation by~~ proteolytic processing.

43. (Currently Amended) [[A]] The composition ~~according to~~ of claim 40, wherein ~~the prothrombin or prothrombin-related~~ said polypeptide has a specific activity ~~75% to 125%~~ 50% to 150% of that of a purified human prothrombin.

44. (Currently Amended) [[A]] The composition ~~according to~~ of claim 40 [[43]], wherein ~~the prothrombin or prothrombin-related~~ said polypeptide further comprises a region having an amino acid sequence 80% to 100% identical to that of a mammalian thrombin.

45. (Canceled)

46. (Currently Amended) [[A]] The composition ~~according to~~ of claim 44, wherein ~~the prothrombin or prothrombin-related polypeptide comprises a region having the amino acid sequence of~~ said mammalian thrombin comprises human thrombin.

47-49. (Canceled)

50. (Original) [[A]] The composition ~~according to~~ of claim 40, wherein ~~the prothrombin or prothrombin-related~~ said polypeptide is produced in milk ~~of a non-human transgenic female mammal~~.

51-52. (Canceled)

53. (Withdrawn) A method for treating a wound in a patient comprising a step of administering to said patient a composition according to claim 40.

54. (Canceled)

55. (Currently Amended) A method for producing a ~~prothrombin or a pro-thrombin-related~~ recombinant transgenic polypeptide, wherein said polypeptide comprises a Gla domain and a region that is at least 70% identical to human prothrombin comprising expressing ~~the prothrombin or prothrombin-related~~ said polypeptide in a transgenic organism and isolating from ~~the~~ said transgenic organism said ~~the prothrombin or prothrombin-related~~ polypeptide.

56. (New) The composition of claim 42, wherein said proteolytic processing comprises enzymatic cleavage selected from the group consisting of Factor Xa, Factor Va, venom protease, thrombin, and combinations thereof.

57. (New) The composition of claim 42, wherein said proteolytic processing comprising chemical activation selected from the group consisting of sodium citrate, protamine sulfate, polylysine, and combinations thereof.

58. (New) The composition of claim 42, wherein said proteolytic processing comprises, in combination, Factor Xa, Factor Va, calcium, and phospholipids.

CONCLUSION

The Applicants believe that the above replacment Claim Amendments section now provides a compliant response. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, the Applicant encourages the Examiner to call the undersigned collect at 617.984.0616.

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